ABSTRACT FOR THE DISSERTATION TO BE SUBMITTED TO THE TAMIL NADU Dr.M.G.R MEDICAL UNIVERSITY, CHENNAI, FOR APRIL 2017 M.D.FORENSIC MEDICINE EXAMINATIONS

TITLE: ESTIMATION OF POSTMORTEM INTERVAL BY EVALUATION OF CELLS IN CEREBRO SPINAL FLUID

ABSTRACT:

Postmortem interval is of interest to the forensic pathologist from time immemorial. Due to the number of variables affecting the range of physical, biochemical and molecular changes in the postmortem, the postmortem interval could be determined only as a range.

The aim of this study is to analyse the number of cells in CSF in postmortem and their morphological changes, to determine the postmortem interval. 39 cases were studied in which 27 cases were male and 12 cases were female of age ranging from 6 – 65 years.

The cerebrospinal fluid sample was collected by cisternal puncture. The cases are with known postmortem interval and are grouped into 5 intervals – 0-6 hours, 6 -12 hours, 12 – 18 hours, 18 – 24 hours and more than 24 hours. There is a raise in cell count in CSF up to 12 hours while there are no degenerative changes detected in the first 6 hours. In the first 6 hours, lymphocyte count is higher than the neutrophil count. In the next six hours, the cell count increases

while the lymphocytes remain higher than the neutrophil count. After 20 hours, the cell morphology is unreliable. The changes in the CSF cell count and cytology can be used along with other parameters to estimate the range of postmortem interval.

KEYWORDS – Postmortem interval, cerebrospinal fluid, cytology